

Listing of the Claims

This listing of Claims will replace all prior versions, and listings, of claims in the application.

1. (currently amended) A connection link restoration method between a first information communication apparatus and a second information communication apparatus, the first information communication apparatus comprising a communications module and a host computer, the communications module performing the method which comprises:

communicating between the first information communication apparatus and the second information communication apparatus through a radio transmission link;

detecting a disconnection of the radio transmission link;

analyzing a reason for the disconnection of the radio transmission link;

determining whether or not to reconnect the disconnected radio transmission link on the basis of the analysis of the disconnection reason;

generating a reconnection command signal if the disconnected radio transmission link should be reconnected and preventing the host computer from receiving an indication of the disconnection of the radio transmission link, and

generating a forced link disconnection command signal if the disconnected radio transmission link should not be reconnected.

2. (currently amended) The connection link restoration method according to claim 1, wherein after determining that the disconnected radio transmission link should be reconnected, a control unit of the communications module determines ~~whether or not the radio transmission link is connected from~~ the first information communication apparatus initiated the communications based on the analyzed reason

for disconnection, and generates the reconnection command signal if the ~~radio transmission link is connected from the~~ first information communication apparatus initiated the communications, and waits for ~~the~~ a reconnection command from the second information communication apparatus if the ~~radio transmission link is not connected from the first information communication apparatus~~ did not initiate the communications.

3. (original) The connection link restoration method of claim 1, wherein the communication is performed between the first information communication apparatus and only one second information communication apparatus.

4. (original) The connection link restoration method according to claim 1, wherein the communications module is a BLUETOOTH module, and wherein a control unit of the communications module determines whether the reason for the disconnection of the radio transmission link arises from a plurality of upper protocol layers or a lower protocol layer provided in the BLUETOOTH module.

5. (currently amended) A connection link restoration method for a first information communication apparatus, comprising:

providing a host computer;

providing a communications module in communication with the host computer, performing;

communicating data through a data transmission link;

detecting a disconnection of the data transmission link;

analyzing a reason for the disconnection of the data transmission link;

determining whether or not to reconnect the disconnected data transmission link on the basis of the analysis of the disconnection reason;

generating a reconnection command signal if the disconnected data transmission link should be reconnected and preventing the host computer from receiving an indication of the disconnection of the radio transmission link; and

generating a forced link disconnection command signal if the disconnected data transmission link should not be reconnected.

6. (currently amended) The connection link restoration method according to claim 5, wherein after determining that the disconnected data transmission link should be reconnected, a control unit of the communications module determines whether or not the ~~data transmission link is connected from the~~ first information communication apparatus initiated communication based on the analyzed reason for disconnection, generates the reconnection command signal if the ~~data transmission link is connected from the~~ first information communication apparatus initiated communication, and waits for ~~the~~ a reconnection command signal if the ~~data transmission link is not connected from the~~ first information communication apparatus did not initiate communication.

7. (original) The connection link restoration method of claim 5, wherein the communication is performed between the first information communication apparatus and only one second information communication apparatus.

8. (original) The connection link restoration method of claim 5, wherein the communication is performed between the first information communication apparatus and a plurality of second information communication apparatus.

9. (currently amended) A connection link restoration method for a first information communication apparatus including a host computer and a communications module having a control unit, the communications module performing the method which comprises:

performing radio communication by transferring a radio transmission signal;

detecting disconnection of a radio transmission link for the radio transmission signal;

analyzing, in the control unit, a reason for the disconnection of the radio transmission link;

determining whether or not to reconnect the disconnected radio transmission link on the basis of the analysis of the disconnection reason;

generating a reconnection command signal if the disconnected radio transmission link should be reconnected and preventing the host computer from receiving an indication of the disconnection of the radio transmission link; and,

generating a forced link disconnection command signal if the disconnected radio transmission link should not be reconnected.

10. (currently amended) A connection link restoration means, comprising:

means for performing radio communication;

means for detecting disconnection of a radio transmission link for a radio transmission signal,

means for analyzing a reason for the disconnection of the radio transmission link,

means for determining whether or not to reconnect the disconnected radio transmission link on the basis of the analysis of the disconnection reason,

means for generating a reconnection command signal if the disconnected radio transmission link should be reconnected and preventing the host computer from receiving an indication of the disconnection of the radio transmission link; and

means for generating a forced link disconnection command signal if the disconnected radio transmission link should not be reconnected.

11. (currently amended) The connection link restoration means according to claim 10, wherein the radio communication means comprises a first information communication apparatus and a second information communication apparatus, means for determining whether or not the ~~radio transmission link is connected from the first~~ information communication apparatus initiated the radio communication on the basis of the analysis of the disconnection reason, means for generating the reconnection command signal if the ~~radio transmission link is connected from the first~~ information communication apparatus initiated the radio communication, and means for waiting for ~~the a~~ reconnection command signal from the second information communication apparatus if the ~~radio transmission link is not connected from the first~~ information communication apparatus did not initiate the radio communication.

12. (original) The connection link restoration means according to claim 10, wherein the radio communication is performed between the first information communication apparatus and only one second information communication apparatus.

13. (currently amended) The connection link restoration means program according to claim 10, wherein the radio communications means has a communications module, the communications module is a BLUETOOTH module, and wherein a control unit in the communications module comprises the means for determining whether the reason for the disconnection of the radio transmission link arises from a plurality of upper protocol layers or a lower protocol layer provided in the BLUETOOTH module.

14. (original) A communications system, comprising:

a first information communication apparatus being in communication with a second information communication apparatus;

the first information communication apparatus having a host computer and a communications module interfaced with the host computer; and

the communications module having a control unit which determines a reason for a failure of communications between the first information communication apparatus and the second information communication apparatus,

wherein a link disconnection signal is not sent to the host computer when there is a failure of communications between the first information communication apparatus and the second information communication apparatus.

15. (original) The communications system according to claim 14, wherein the control unit determines whether a reconnection command signal should be generated.

16. (currently amended) The communications system according to claim 15, wherein communications module further comprises a connection restoration circuit unit that reacts to the reconnection command signal by restoring a link connection between the first information communication apparatus and the second information communication apparatus if the ~~link is connected from the~~ first information communications apparatus initiated the link connection, and waiting for a circuit reconnection signal from the second information communications apparatus if the ~~link is connected from the~~ second information communications apparatus initiated the link connection.

17. (original) The connection link restoration method of claim 14, wherein the communication is performed between the first information communication apparatus and only one second information communication apparatus.

18. (original) The communications system according to claim 14, wherein the control unit determines that a communications link should not be reconnected and generates a forced link disconnection command.

19. (original) The communications system according to claim 18, wherein the communications module comprises a connection restoration circuit unit, the forced link disconnection signal is sent to the host computer, and the reconnection command signal is sent to the connection restoration circuit unit.

20. (currently amended) A data communications system, comprising:

a first information communication apparatus having a host computer and a communications module, the communications module having a control unit and a connection restoration circuit unit; and

the information communication apparatus performing data communication through a data communications link;

the control unit analyzing whether or not to reconnect data communications link when the data communications link has been disconnected based on a disconnection reason and inhibits a link disconnection signal from being communicated to the host computer; and

the control unit generates a reconnection command signal if the data communications link should be reconnected and a forced link disconnection signal if the disconnected signal should not be reconnected.

21. (original) The data communications system according to claim 20, wherein the forced link disconnection command signal is communicated to the host computer.

22. (currently amended) The data communications system according to claim 20, wherein when the control unit determines that the data communications link

should be reconnected, the control unit analyzes ~~analyzing~~ whether the data communications link is ~~connected from the first communications apparatus~~ initiated the data communications link, and generates a reconnection command signal, and waits for ~~the~~ a reconnection command signal if the ~~data communications link is not connected from the first communications apparatus~~ did not initiate the data communications link.